

California Department of Fish and Game  
926 Jay Street  
Sacramento, California

MARINE FISHERIES BRANCH - M. V. SCOFIELD  
CRUISE REPORT

Cruise: Cruise 3 of the N. B. SCOFIELD for 1955. 55-S-3.

Itinerary: Departed San Pedro May 5, 1955. Explored the sea area bounded by the western shore of the North America Continent and longitude 135° W and by the latitudes 26° N to 36° N.  
Returned to San Pedro June 4, 1955.

Purpose: To explore for albacore in the eastern north Pacific Ocean with the objectives of, 1) delineating their off season distribution, and 2) discover possible migration routes to make biological and oceanographic observations which may be related to the occurrence of albacore.

Participants: A. California Department of Fish and Game.  
Providing vessel N. B. SCOFIELD, crew, fishing gear, and two biologists.

B. Scripps Institution of Oceanography.  
Providing oceanographic equipment and shore side analysis of hydrographic data collected.

C. South Pacific Fisheries Investigation U.S.F. & W.S.  
Providing plankton equipment and shore side analysis of samples.

Results: Briefly, the following is a typical day's operation when running station lines. Forty baskets of longline fishing gear was set at daybreak, approximate setting time one and one-half hours. While this gear was soaking six lines were trolled in the immediate vicinity -- average trolling time five hours. A standard 200 meter oblique plankton tow, near the center buoy, was also made while the gear soaked. Retrieving of the longline started at 1230 and on completion, usually two and one-half to three hours, the course was set for the next station 120 miles away. While en route to the next station, during daylight hours six lines were trolled and a watch kept for signs of surface schools of fish and bird flocks. At night, usually commencing at 2100, a plankton tow was made, followed by one hour of fishing with a fine meshed dip net under a 1500 watt night light.

Bathythermograph casts were made at each end of a longline set, while on a night light station and approximately every three hours while under way. Due to very high seas water entered the BT winch housing, making it inoperative for almost a week. In addition to the routine meteorological observations at each BT cast, surface

water samples were taken for salinity determinations ashore. Sea surface temperatures ranged from 14.1° C to 19.3° C (57.4° to 66.7° F.)

At each fishing station three depths were fished. The surface was sampled by trolling artificial lures of various types. Two sub-surface depths were fished by rigging 20 baskets of longline with five fathom float lines and 20 baskets with 15 fathom floatlines. Fresh frozen sardines, 3 and 4 to the pound, were used as bait. Chemical sounding tubes were used to determine the fishing depth of each section of longline. To test the accuracy of the tubes, a special cast was made wherein the tubes were fastened to the hydrographic cable and lowered to known depths. The results indicate that the tubes are accurate to two fathoms. At the usual fishing depths this is an accuracy of 3.5% and 2.8%.

Unfavorable weather conditions severely hampered operations, causing two major changes in the original cruise plan and limiting the number of fishing stations to 16 and night light stations to 11.

Two additional stations were occupied, 1) a daylight plankton tow, and 2) a hook and line -- night light station while at anchor southeast end of Guadalupe Island, Mexico.

#### Fishery Statistics:

Total baskets fished	640
Total hooks fished	6,967
Average fishing depth-middle hook:	
5 fathom floatline	57 fath.
15 fathom floatline	70 fath.
Total trolling time on station	70 hours 40 min.
Total trolling time between stations	50 hours 20 min.
Catch:	

    Trolling - 1 Dolphinfish. Lost 2 lures.

    Longline - 3 Albacore  
              3 Skipjack  
              20 Big Eye  
              26 Lancet fish  
              14 Dolphinfish  
              4 Opah  
              1 Mackerel Scad  
              47 Blue Sharks  
              10 Bonito Sharks

The three albacore, size range 666 to 678 mm., were taken on longlines, along longitude 135° W at two adjoining stations. On May 15, two fish were taken at latitude 27° 41' N, and on May 16 one fish was taken at latitude 29° 26' N. The surface water temperature in this area ranged from 18.0° C to 18.7° C (64.4° F - 65.7° F). Bathythermograph casts indicate that these temperatures extended down to depths of 90 and 130 meters. The same water temperature conditions were found to the south, while north and east of the area temperatures were colder by one to several degrees.

# LOGLINE FISHING FOR ALBACORE

M.V. N.B. SCOFIELD ~~(54-8-3)~~

55-5-3

